

Curriculum Vitae

ROBERT KEY DISMUKES

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PROFESSIONAL EXPERIENCE

1991-present	Chief Scientist, Human Factors Research & Technology Division NASA-Ames Research Center
1989-1991	Chief, Aerospace Human Factors Research Division NASA-Ames Research Center
1983-1989	Director of Life Sciences Air Force Office of Scientific Research
1979-1983	Study Director, Committee on Vision National Academy of Sciences-National Research Council
1977-1979	Staff Scientist, Neurosciences Research Program Massachusetts Institute of Technology
1976-1977	National Endowment for the Humanities Fellow Institute of Society, Ethics, and the Life Sciences, Hastings, New York
1975-1976	Visiting Faculty, Department of Pharmacology Free University Medical Faculty, Amsterdam
1973-1975	Staff Fellow, Pharmacodynamics Section NIAMDD, National Institutes of Health
1972-1973	Postdoctoral Fellow, Department of Pharmacology The Johns Hopkins University School of Medicine
1966-1968	1st Lieutenant, U. S. Army

EDUCATION

B.S.	1964	North Georgia College	Physics
M.A.	1966	Vanderbilt University	Physics
Ph.D.	1971	Pennsylvania State University	Biophysics/Neuroscience

RELATED PROFESSIONAL EXPERIENCE

Society for Neuroscience: Social Issues Committee (1977-1982; chair, 1980-1982); Committee on Animal Welfare (1981-1982); Task Force on Government Affairs and Social Issues (vice-chair, 1982-1983).

National Institute for Handicapped Research: Interagency Committee on Low Vision (1981-1984).

National Research Council: Professional Staff Development Committee (chair, 1982-1983).

Federation of Behavioral, Psychological, and Cognitive Sciences: Forum on Research Management (1984-1989).

FAA Scientific Task Planning Group (1990).

FAA/NASA Technical Advisory Group for Aviation Human Factors (1991)

U.S. Army Reserve (1968-73): Commander, HHC, 313th Transportation Battalion.

FAA pilot ratings: ATP multiengine land: B-737, CE-500. Commercial SE Land, glider. CFI (glider).

PUBLICATIONS

Research Reports

Dismukes, R.K., Lott, S.H., and Barach, J.P. (1966) Faraday effect measurements with pulsed magnetic fields. **Applied Optics** 5:1246.

Dismukes, R.K. and Rake, A.V. (1972) Involvement of biogenic amines in memory formation. **Psychopharmacologia** 23:17.

Dismukes, R.K., Kuhar, M.J., and Snyder, S.H. (1974) Brain histamine alterations after hypothalamic isolation. **Brain Research** 78:144.

Dismukes, R.K. and Snyder, S.H. (1974) Dynamics of brain histamine. **In Advances in Neurology** (McDowell, F. and Barbeau, A., eds.). New York: Raven Press. 5:101

Dismukes, R.K. and Snyder, S.H. (1974) Histamine turnover in rat brain. **Brain Research** 78:467.

Dismukes, K. and Daly, J.W. (1974) Norepinephrine-sensitive systems generating cyclic AMP: increased responses in cerebral cortical slices from reserpine-treated rats. **Mol.**

Pharmacol. 10:933.

Dismukes, R.K. and Daly, J.W. (1975) Accumulation of adenosine 3'-5' monophosphate in rat brain slices: effects of prostaglandins. **Life Sciences** 17:199.

Dismukes, R.K. and Daly, J.W. (1975) Altered responsiveness of adenosine 3'-5' monophosphate generating systems in brain slices from adult rats after neonatal treatment with 6-hydroxydopamine. **Experimental Neurology** 49:150.

Dismukes, R.K., Gosh, P., and Daly, J.W. (1975) Cyclic adenosine 3'-5' monophosphate generating systems in guinea pig brain slices: lack of alterations following chronic depletion of norepinephrine and serotonin. **Experimental Neurology** 52:206.

Dismukes, R.K., Gosh, P., and Daly, J.W. (1975) Enhanced responsiveness of adenosine 3'-5' monophosphate generating systems to putative neurotransmitters in rat brain slices following medial forebrain lesioning. **Experimental Neurology** 49:725.

Rogers, M., Dismukes, R.K., and Daly, J.W. (1976) Norepinephrine-sensitive cyclic AMP-generating systems: increased responses in guinea pig brain slices: effects of H1 and H2 antagonists. **J. Neurochemistry** 25:531.

Dismukes, R. K., Rogers, M., and Daly, J. W. (1976) Cyclic adenosine 3'-5' monophosphate formation in guinea pig brain slices: effects of H1 and H2 histamine agonists. **J. Neurochemistry** 26:785.

Dismukes, R. K. and Daly, J. W. (1976) Altered brain cyclic AMP responses in rats reared in enriched or impoverished environments. **Experientia** 32:730.

Dismukes, R. K. and Mulder, A. H. (1976) Cyclic AMP and alpha-receptor mediated modulation of noradrenaline release from rat brain slices. Eur. **J. Pharmacology** 39:383.

Stalvey, L., Daly, J. W., and Dismukes, R. K. (1976) Behavioral activity and accumulation of cyclic AMP in brain slices of inbred strains of mice. **Life Sciences** 19:1845.

Dismukes, R. K. and Mulder, A. H. (1976) Effects of neuroleptics on release of tritiated dopamine from striatal slices. **N.S. Arch. Pharmacol.** 297:23.

Dismukes, R. K. van der Boer, A., and Mulder, A. H. (1977) On the mechanism of alpha-receptor modulation of norepinephrine release from brain slices. **N.S. Arch. Pharmacol.** 299:115.

Mulder, A. H., de Langen, C., Wemer, J., and Dismukes, K. (1977) In vitro studies on presynaptic alpha-receptor mediated modulation of transmitter release from central noradrenergic neurons. In **Catecholamines: Basic and Clinical Frontiers** (E. Usdin, J. J. Konig, and J. Barchas, eds.). New York: Pergamon Press. 1:259.

Dismukes, R. K. (1978) Constraints on inferring neurochemical involvement in behavior. In **Peptides and Behavior: A Critical Examination of Approach. Neurosci. Res. Prog. Bull.** Cambridge: MIT Press. 16(4):580.

Mulder, A. H., Dismukes, R. K., de Langen, C. D. J., Wemer, J., and Frankhuyzen, A. L. (1980) Studies on presynaptic alpha-adrenoceptors in the rat brain. **Progress in Pharmacology** (P. A. van Zweiten, ed.).

Orasanu, J., Dismukes, R. K., and Fischer, U. (1993) Decision errors in the cockpit. **Proceedings of the Human Factors and Ergonomics Society.** (pp363-7) Santa Monica, CA: Human Factors Soc.

Dismukes, R. K., McDonnell, L. K., Jobe, K. K., and Gregorich, S. E. (1995) A survey and analysis of LOFT debriefing techniques. **Proceedings of the Eighth International Symposium on Aviation Psychology.** (pp651-7). Columbus, OH: Ohio State University.

Dismukes, R. K., Jobe, K. K., McDonnell, L. K. (1997) LOFT debriefings: an analysis of instructor techniques and crew participation. **NASA Technical Memorandum 110442.**

McDonnell, L. K., Jobe, K. K. and Dismukes, R. K. (1997) Facilitating LOS debriefings: a training manual. **NASA Technical Memorandum 112192.**

Baker, D. P. and Dismukes, R. K. (1997) Tools for Investigating Rater Reliability and Accuracy. **Proc. Ninth Int. Symp. on Aviation Psychology** (pp452-458). Columbus, OH: Ohio State University.

Dismukes, K., Young, G., and Sumwalt, R. (1998) Cockpit Interruptions and Distractions: Effective Management Requires a Careful Balancing Act. **ASRS Directline** 10, 3.

Baker, D.P., Mulqueen, C., and Dismukes, R.K. (1999) Training pilot instructors to assess CRM: The utility of frame-of-reference (FOR) training. **Proc. Int Aviation Training Symposium** (291-300)

McDonnell, L.K., Jobe, K.K., Dismukes, R.K., and Smith, G.M. (1999) The debriefing assessment battery as a facilitation tool. **Proc 10th Int Symp. On Aviation Psychology** (pp1084-1087). Columbus, OH: Ohio State University.

Henry, W.L., Young, G.E., and Dismukes, R.K. (1999) The influence of global positioning system technology on general aviation pilots' perception of risk during in-flight decision making. **Proc 10th Int Symp. On Aviation Psychology** (pp147-151). Columbus, OH: Ohio State University.

Dismukes, R.K. (1999) Discussion: issues in evaluating crew performance in line

oriented evaluation. **Proc 10th Int Symp. on Aviation Psychology** (pp329-331).
Columbus, OH: Ohio State University.

Dismukes, R. K., McDonnell, L. K., and Jobe, K. K. (2000) Facilitating LOFT Debriefings: Instructor Techniques and Crew Participation. **Int. J. Aviation Psychology** 10: 35.

Dismukes, R.K., Loukopoulos, L.D., and Jobe, K. (in press) The challenges of managing concurrent and deferred tasks. **Proc. 11th Int. Symp. On Aviation Psychology**.
Columbus, OH: Ohio State University.

Loukopoulos, L.D., Dismukes, R.K., and Barshi, I. (in press) Cockpit interruptions and distractions: a line observation study. **Proc. 11th Int. Symp. On Aviation Psychology**.
Columbus, OH: Ohio State University.

Mulqueen, C. Baker, D.P., and Dismukes, R. K. (in press) Pilot Instructor Rater Training: The Utility of the Multifaceted IRT Model. **Int. J. Aviation Psychology**,
Columbus, OH: Ohio State University.

Baker, D.P., and Dismukes, R. K. (in press) Training Raters to Assess Crew Performance: Theory, Practice, and Future Directions. **Int. J. Aviation Psychology**,
Columbus, OH: Ohio State University.

Baker, D.P., Mulqueen, C., and Dismukes, R.K. (in press) Training Raters to assess resource management skills. In **Applying Resource Management in Organizations: A Guide for Training Professionals** (E. Salas, C. Bowers, and E. Edens, eds). Mahwah, NJ: Lawrence Erlbaum.

Stone, M., Dismukes, K., and Remington, R. (in press) Prospective Memory in Dynamic Environments: Effects of Load, Delay, and Phonological Rehearsal. **Memory**.

Review Articles and Books

Dismukes, R. K. (1971) The biogenic amines and memory. Ph.D dissertation, Biophysics Department, Pennsylvania State Univ.

Dismukes, R. K. and Daly, J. W. (1976) Adaptive responses of brain cyclic AMP generating systems to altered synaptic input. **J. Cyclic Nucleotide Research** 2:321.

Dismukes, R. K. and Liebeskind, J. L. (1978) An overview: How much can psychopharmacology tell us about the roles of neuropeptides in behavior. In **Peptides and Behavior: A Critical Examination of Approach. Neurosci. Res. Prog. Bull.** Cambridge: MIT Press 16(4):493.

Dismukes, R. K. (1978) What mind-brain problem? **Behavioral and Brain Sciences** 1:351.

Dismukes, R. K. (1979) New concepts of molecular communication among neurons. **Behavioral and Brain Sciences** 2:409.

Daly, J. W., Hoffer, B. J., and Dismukes, R. K. (1980) **Regulation of Neuronal Sensitivity. Neurosci. Res. Bull.** Cambridge: MIT Press. 18(3)325.

Richards, W. and Dismukes, K. (eds.) (1981) **Vision Research for Flight Simulation.** Report of a National Research Council Panel. Washington: National Academy Press.

Sekuler, R., Kline, D., and Dismukes, R. K. (eds.) (1982) **Aging and Human Visual Function** New York: Alan R. Liss.

Sekuler, R., Kline, D., and Dismukes, K. (eds.) (1982) Aging and Visual Function of Military Pilots. Report of a National Research Council Working Group. **Aviation, Space, and Environmental Medicine** 53(8):747.

Brown, B. S., Dismukes, R. K., and Rinalducci, E. J. (1982) Video Display Terminals and the Vision of Workers: Summary and Overview Of a Symposium. **Behavior and Information Technology** 1(2):121.

Dismukes, R.K. and Smith, G.M. (2000) **Facilitation and Debriefing in Aviation Training and Operations** Aldershot: Ashgate.

Policy, Op/Ed and Public Affairs Articles

Dismukes, R. K. (1977) Recombinant DNA: a proposal for regulation. **Hastings Center Report** 7:25. Reprinted in **Bioethics: Selected Readings**. T. A. Shannon (1980) (revised). New York: Paulist Press.

Dismukes, R. K. (1979) What should society expect from scientists? **Bull. of Atomic Scientists** 35(9):19. Reprinted in **Current** (1980) 220:23.

Dismukes, R. K. (1980) The Supreme Court and patenting life: life is patently not human-made. **Hastings Center Report** 10(5):11.

Dismukes, K. (12 July 1983) With video display terminals the distress is human. **Los Angeles Times** and other newspapers.

Dismukes, K. (1988) Why scientists should start playing the political game. **The Scientist** 2 (15):11.

Dismukes, K. and Jonides, J. (1989) Project 2061: A place to start educating the public. **The Scientist** 3 (15): 11.

Dismukes, K. (1992) Borrowing ideas for soaring safety. **Soaring** 56 (7):39.

Dismukes, K. (1994): Aviation human factors research in U.S. Universities: Potential contribution to National Needs. **NASA Technical Memorandum 108814**. Also in (1994): **International Journal of Aviation Psychology** 4(4): 315.

McDonnell, L. and Dismukes, K. (1996) A New tool for assessing LOFT debriefings. **The CRM Advocate** 96 (2) 15.

Dismukes, K. and Tullo, F. (July 17, 2000) Aerospace Forum: Rethinking crew error. **Aviation Week & Space Technology** p63.

News and Views Articles

Opiate receptor binding (1973) **Nature** 242:228. A common receptor for hallucinogens? (1973) **Nature** 242:367. Receptors for neuro- transmitters (1973) **Nature** 252:443. Narcotic action at the molecular level (1974) **Nature** 247:83. Two-faced neurons (1977) **Nature** 269:104. New look at the aminergic nervous system (1977) **Nature** 269:557. Central core regulation: monoaminergic systems (1977) **Neuroscience Newsletter** 8:5. Mechanisms of regulation of neuronal sensitivity (1978) **Neuroscience Newsletter** 9:5. Two NRP one-day conferences (1979) **Neuroscience Newsletter** 10(1):4. Should the Society for Neuroscience act on behalf of repressed scientists? (1981) **Neuroscience Newsletter** 12(4):2. Animal welfare: public issues and scientists' concerns (with L. Irwin) (1981) **Neuroscience Newsletter** 12(6):2.

Symposia Organized or Chaired

Communication and citation patterns in neuroscience, Society for Neuroscience 1978 annual meeting (Anaheim). Regulation of neuronal sensitivity, Neurosciences Research Program Conference, 14-16 May 1978 (Boston). The roles of neuropeptides in behavior, Neurosciences Research Program, 5-6 October 1978 (Boston). Aging and human visual function, NAS-NRC Committee on Vision symposium, 31 March-1 April 1980 (Washington). Low vision: strategies for developing basic research/ clinical science collaboration, workshop sponsored by a group of federal agencies and professional organizations, 11 January 1981 (Bethesda, MD). Video display terminals and vision of workers, NAS-NRC Panel on Video Viewing symposium, 20-21 August 1981 (Washington). Use of animals in neuroscience research, Society for Neuroscience 1982 annual meeting (Minneapolis). Human Performance in the Modern Cockpit, Aerospace Medical Association 1992 annual meeting (Miami).

STUDY DIRECTOR FOR NAS-NRC STUDIES

The Multiple Position Letter Sorting Machine: An Evaluation of Visual, Auditory, and Human Factor Problems. (1979). Washington: National Academy of Sciences.

Recommended Standard Procedures for the Clinical Measurement and Specification of visual acuity (1980). **Advances in Ophthalmology** 41:103

Effects of Microwave Radiation on the lens of the Eye (1981). Washington: National Academy of Sciences.

Procedures for Testing Color Vision (1981). Washington: National Academy of Sciences.

Vision Research for Flight Simulation (1981). Washington: National Academy of Sciences.

Aging and Visual Function of Military Pilots (1982). Sekuler, R., Kline, D., and Dismukes, K., eds. **Aviation, Space & Environmental Medicine** 53(8): 747.

Video Viewing and the Vision of Workers (1983). Washington: National Academy of Sciences.

Some Research Needs in Aging and Visual Perception (1983). Sekuler, R., Kline, D., Dismukes, K., and Adams, A. **Vision Research** 23 (3): 213.

BOOK REVIEWS

M. Gazzaniga's **The Social Brain** (1988). Dismukes, K. **Technology Review** 91(2):77.

J. Ziman's **Knowing Everything about Nothing** (1988). Dismukes, K. **The Scientist** 2(2):19.